EXAMPLE

INFORMATION REQUIRED FOR A REPORT OF WASTE DISCHARGE

A Report of Waste Discharge (RWD) is the report required by the California Water Code for applying to obtain Waste Discharge Requirements (WDRs) under which solid or liquid wastes may be discharged. If no discharge to surface water occurs, such as in percolation ponds or landfills, the WDRs implement only State policies and regulations. If the discharge is to surface waters, the WDRs incorporate federal policy and regulation under the National Pollutant Discharge Elimination System (NPDES) program. The process of submitting a RWD and obtaining a discharge permit always covers the same considerations, but the specifics of the application, staff evaluation and final WDRs are site specific and dependent on the type of wastes, treatment processes, receiving waters, and the potential impact to public health or water quality problems. Facilities regulated by Chapter 15 are not addressed here because a separate RWD format has been developed.

A RWD must be submitted including a completed and appropriately signed State Form 200 (Application for Facility Permit/Waste Discharge). For discharges to surface water, other applications must also be submitted which are outlined in the Attachment. The RWD must contain sufficient information on the nature and extent of the discharge, the proposed treatment techniques and information on the receiving water so that the Board can establish effluent limits in the WDRs and so that the Board has reasonable assurance that the proposed treatment and disposal systems will meet these limits and that the discharge will be in compliance with the Porter Cologne Water Quality Control Act, the Water Quality Control Plan and other adopted plans and policies. The RWD must contain information on the following items:

A. Background Information

A basic description of the proposed discharge must be provided to allow staff to determine what policies and regulations may apply to the discharge, and whether the additional information submitted by the discharger is reasonable and sufficient. This information generally includes:

1. A general description of the pollutants expected in the waste stream including the type of contaminant, identification of the source of pollutants (source areas), the potential seasonal variations in the concentrations of pollutants and flow rates and a general description of the proposed treatment and disposal systems.

2. Identification of the surface drainage controls, drainage courses and surface water bodies, including rivers, streams, lakes and ponds.

3. Identification of all wells, including monitor, extraction, injection and supply wells, on- and off-site within a mile of the site or within an area that may potentially be influenced by the discharge.

4. Map(s) of the site which depicts the location of all surface features identified above in Items No. 1, 2 and 3, including the process and

source areas, the points of discharge and the extraction, treatment and disposal facilities.

5. Documentation of any compliance with the California Environmental Quality Act (CEQA) and all necessary local and state permits. Submit a copy of an Environmental Impact Report (EIR) or a Negative Declaration, if either has been prepared.

B. **Chemical and Physical Wastewater Characteristics**

WDRs do not attempt to regulate all chemicals and discharge conditions, only those chemicals and conditions which can reasonably be expected to occur and threaten water quality or its beneficial uses. A chemical and physical evaluation of the wastewater is needed to allow staff to assess the need for discharge standards and monitoring, and to evaluate the potential for impacts on water quality. The specifics of the characterization varies with the type of wastes being discharged. The following are typical requirements for ground water cleanup discharges:

1. Analytical results that characterize the waste stream including the identification of any toxic pollutants and carcinogens so that the Board may evaluate the effluent quality to determine if it will be protective of the beneficial uses of the water body and to determine if it will meet other applicable requirements, including the Anti-Degradation Policy, Water Quality Control Plan, Inland Surface Water Plan, Enclosed Bays and Estuaries Plan, Delta Salinity Plan, Pollutant Policy Document, Thermal Plan (Water Quality Control Plan for Control of Temperature in the Costal and Interstate Waters and Enclosed Bays and Estuaries of California) and the Water Quality Control Policy for the Enclosed Bays and Estuaries of California.

2. A minimum of one of each of the following analyses of the wastewater water which will be treated and discharged:

   a. Chlorinated volatile hydrocarbons (EPA Methods 601 or 8010).

   b. Aromatic volatile hydrocarbons (EPA Methods 602 or 8020).

   c. Total petroleum hydrocarbons (TPH) in the gasoline and diesel ranges (3550 GCFID). Additional or alternative TPH analyses may be required if the suspected pollutants contain hydrocarbon fractions outside the range of these tests.

   d. Chlorinated pesticides (EPA Method 608 or 8080).

   e. Heavy metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc).

f. General or standard minerals analyses, including but not limited to, total dissolved solids (TDS), chloride, sulfate, nitrate, electrical conductivity (EC), pH and temperature.

g. Other analyses associated with specific types of waste streams; for example, dissolved oxygen (DO), biological oxygen demand (BOD) and suspended solids (SS) for domestic waste streams or pollutants associated with specific industrial processes.

h. For surface water discharges, additional water quality sampling must be performed as listed in the Inland Surface Water Plan, including analyses for acrolein and acrylonitrile, phenols, benzidines, phalate esters, nitrosamines, nitroaromatics and isophorone, polynuclear aromatic hydrocarbons, haloethers, chlorinated hydrocarbons, dioxins and furans, asbestos, cyanide, 1,2-diphenylhydrazine and tributylin.

3. On a site-by-site basis, surface water discharges may be required to conduct acute and chronic toxicity testing (EPA/600-4-85-014 and EPA/440/4-85-032).

C. **Disposal Analysis**

There are two major goals of the disposal analysis:

• Both the Regional Board in its Water Quality Control Plan and the U.S. EPA in the Clean Water Act strongly encourage land disposal over surface water disposal. The discharger must assess the feasibility of land disposal before a surface water disposal permit will be issued.

• If a land disposal option is chosen, there must be reasonable assurance that the waste treatment and disposal facilities are adequate to contain the wastes at the selected disposal site without overflow, washout, etc. Land disposal alternatives must also evaluate the potential impacts of the discharge on ground water.

The disposal analysis usually contains the following:

1. An evaluation of land disposal options for the purpose of screening feasible disposal alternatives. This analysis may result in the detailed development of more than one disposal option. Justification for selecting a surface water disposal alternative must be provided in lieu of discharge to land, to a publicly owned treatment works (POTW) or for wastewater reuse. Land disposal alternatives to be evaluated include reinjection, ponding, percolation and irrigation. An evaluation of land disposal alternatives, including the institutional, environmental and financial constraints for each alternative must be provided. The proposed disposal system may consist of two or more disposal alternatives.

2. A narrative and schematic description of each of the proposed alternatives in the disposal system. Identification of whether disposal occurs on a seasonal basis. Information on the type and size of the disposal alternative(s). Provide design details, including flows, for each disposal alternative.

3. A water mass balance for each land disposal alternative must be provided to assure that sufficient disposal capacity is available at all times under all weather and operational conditions.

4. A discussion on the potential hydraulic and other impacts of the selected wastewater disposal alternative(s) on the migration and capture of the plume.

5. If treated water is to be used for irrigation, off-site property owner, description of the crops, type and permeability of the soils, estimated quantities based on consumptive use, method of application, surface runoff controls and the irrigation season must be identified. Institutional arrangements for control of land must also be identified.

6. If ponds are used for the disposal of the treated wastewater, information on the freeboard and structural integrity and estimates of infiltration and evaporation must be provided.

7. For disposal by ground water reinjection, an evaluation of the chemical compatibility of the treated wastewater with the ground water must be provided. Information on the aquifer characteristics and the injection wellfield and well designs must also be provided.

D. **Wastewater treatment system and characteristics**

A description of the treatment facility is needed to assure that all waste streams are accounted for, and to aid in design of the monitoring program. Additionally, we review the conceptual system design to have reasonable assurance that the system will function as proposed. (A full technical review of the system design is usually not conducted by the regional boards because we are prohibited from prescribing how performance standards are met.)

1. A detailed narrative description and schematic presentation of the proposed treatment system, including all processes.

2. Descriptions of the nature and concentration of any chemical additive used for treatment must be included. If the proposed treatment system uses activated carbon, submit an estimate of the breakthrough time for each carbon treatment unit. If the operations and maintenance include backflushing, or other required treatment for maintenance, then a full description of any discharges associated with these procedures must be included.

3. An estimate of the average, maximum and any variation in flows, as well as the design flows (hydraulic and treatment) for the treatment system. All necessary sizing calculations to accommodate the treatment volume must be included.

4. An evaluation of whether the proposed treatment system will meet all applicable plans, policies and regulations. Proposed numerical effluent limits for individual pollutants must be provided.

5. An operation plan describing general operations, maintenance procedures and process controls. Information on the provisions for stand-by power must be provided. For disposal by ground water reinjection, identification of methods and schedule for injection well rehabilitation.

6. A description of the proposed performance monitoring system to determine the adequacy and efficiency of the proposed extraction (for ground water remediation), treatment and disposal systems in meeting the WDRs.

7. A spill plan including the preventive and contingency measures for controlling accidental discharges and for minimizing the effect of such an event.

8. Provide information required to assess protection of the facility from floods and frost.

9. For ground water cleanups, a narrative and schematic description of the proposed extraction system. A discussion of the estimated number, location and pumping rates of the extraction wells needed for complete plume capture and a discussion on the anticipated hydraulic affects on the migration of the plume.

E. **Site Hydrogeology**

1. Depth to ground water, including seasonal variations.

2. Direction and gradient of ground water flow.

3. For ground water remediation, the vertical and lateral extent of pollution, including summary information on the locations, construction and analytical results from monitor wells used to define the plume. (Note: full definition of the plume is not a necessary condition for completion of a RWD.)

4. An estimate of the anticipated length of ground water remediation to achieve the aquifer cleanup levels to be established by the Board.

F. **Sludge Disposal Practices**

A description of the sludge disposal practices is needed to assure that adequate provisions are proposed to prevent impacts of the sludge disposal on surface or ground water and to assure that any nuisance will be prevented. Staff must evaluate the following:

1. Description of the quantity and consistency of sludge and the chemical characteristics of a chemical sludge.

2. Description of sludge containment, treatment and disposal practices.

3. A technical plan to show compliance with Chapter 15, Division 3, Title 23 of the California Code of Regulations (CCR) for the collected screenings, sludges and other solids removed from liquid wastes, spent carbon or other chemical sludges.

4. Use and disposal of sewage sludge must comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in the Code of Federal Regulations (40 CFR 503).

G. **Receiving Water**

Information concerning the receiving water quality, flows and beneficial uses is critical to determine how the Board's plans, policies and regulations apply and to determine which water quality objective are applicable. These water quality objectives and the application of the anti-degradation analysis will allow staff to develop site specific effluent discharge limits.

1. Description of the beneficial uses as designated in the Water Quality Control Plan and identification of current and likely future water users.

2. Provide information on the water quality of the receiving water. Analytical results should be provided for all constituents found in the waste stream as listed under B.2 above.

3. Descriptions of the direction and magnitude of flows. Sources and seasonal flow variations for surface water and irrigation supply must be provided. For disposal by reinjection, identification of the water bearing zones designated for reinjection.

4. For discharges to surface water the following must be provided:

   a. Conduct an analysis of the impact of the wastewater discharge on the DO content and temperature of the surface receiving water. Calculations should be performed for the range of dilution and temperature conditions expected to be found in the receiving

waters. All assumptions should be stated and a sample calculation should be included. Identification of all sources of dilution.

b. Conduct a preliminary evaluation on whether the discharge will cause or contribute to an exceedance of the receiving waters standards contained in the California Inland Surface Water Plan and the Enclosed Bays and Estuaries Plans and provide analyses to demonstrate conformance with the provisions of the plans and policies as necessary. Provide information on discharge and receiving water to allow calculation of effluent limitations. This information should include concentrations and flows as dilution data. If the application is for a new discharge or for a flow increase, provide information for an anti-degradation analysis.

c. Chronic toxicity testing (EPA/600-4-85-014 and EPA/440/4-85-032) using a dilution series with water from the surface receiving water source.